FEDERAL AID
ANNUAL RESEARCH PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

PROJECT TITLE: Importance of predation and habitat quality to moose population regulation in GMU13

PRINCIPAL INVESTIGATOR: Grant V. Hilderbrand

COOPERATORS: Don Spalinger (University of Alaska Anchorage) and Phil Townsend (University of Maryland)

FEDERAL AID GRANT PROGRAM: Wildlife Restoration

GRANT AND SEGMENT NR: W-33-2

PROJECT NR: 1.55

WORK LOCATION: Nelchina Basin, Game Management Unit 13

STATE: Alaska

PERIOD: 1 July 2003–30 June 2004

I. PROGRESS ON PROJECT OBJECTIVES SINCE PROJECT INCEPTION

OBJECTIVE 1: Establish a comprehensive GIS for GMU 13.

A GIS database has been implemented for moose locations.

OBJECTIVE 2: Determine the feasibility and potential costs and benefits of replacing traditional moose counts with modern spatial density estimates.

Both methods were employed in 2000 to build the data set from which this objective will be addressed.

OBJECTIVE 3: Develop statistical/biological models of population trends for moose in the NSA.

Bayesian models of population trend have been developed, as well as deterministic and stochastic models that incorporate population parameters determined from radio-collared moose.

OBJECTIVE 4: To develop and test landscape models of habitat quality and utilization for moose in GMU 13.

No work on this aspect.

OBJECTIVE 5: To develop and test landscape models of predation risk for moose in GMU 13.

Howard Golden's work on wolf movements is the first step towards this objective.

II. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD

JOB 1: Trend-count and composition surveys. Trend count and composition surveys were not funded as part of this project this year

JOB 2: Moose density estimates. A spatial density estimate in the Nelchina Study Area was not completed this year.

JOB 3: Radiocollaring adult and yearling moose. Eight moose were captured and equipped with radiocollars. No capture-related mortalities occurred this year.

JOB 4: Radiotracking/survival/reproduction. Aerial radio-tracking was conducted to assess reproductive status of 67 moose in the project period.

JOB 7: Spatial and population modeling. Deterministic spreadsheet models and stochastic models of population growth were used to estimate population growth rates.

JOB 8: Meetings and publications. The principle investigator attended the Northwest Section Meeting of the Wildlife Society and presented the following:

Hilderbrand, G., H. Golden, D. Spalinger, and W. Collins. 2004. Nelchina habitat, moose, and predators: current knowledge and future research. Annual Meeting of the Northwest Section of the Wildlife Society, Girdwood AK, May 2004.

III. ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD

IV. PUBLICATIONS

VII. PROJECT COSTS FOR THIS SEGMENT PERIOD

FEDERAL AID SHARE $ 81,850 STATE SHARE $ 28,283 = TOTAL $ 109,133

VIII. PREPARED BY:

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Wildlife Biologist III

SUBMITTED BY:

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Acting Research Coordinator

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APPROVAL DATE: _____